a. classification of subject matter IPC 7 G02B6/36 G02B6/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) $IPC\ 7\ G02B$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	US 2003/034438 A1 (HEIKS NOEL A ET AL) 20 February 2003 (2003-02-20) the whole document	1-15
Α ,	US 2003/138219 A1 (EDWARDS PHILLIP J ET AL) 24 July 2003 (2003-07-24) abstract	
X	US 6 048 107 A (PUBANZ GEORGE) 11 April 2000 (2000-04-11) abstract	1-7, 13-15
A	US 2001/055460 A1 (STEINBERG DAN A) 27 December 2001 (2001-12-27) figure 1	11
Α	US 2003/091301 A1 (JIN YONG-SUNG ET AL) 15 May 2003 (2003-05-15)	

Y Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
Special categories of cited documents: A document defining the general state of the art which is not considered to be of particular relevance E earlier document but published on or after the international filing date L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) O document referring to an oral disclosure, use, exhibition or other means P document published prior to the international filing date but later than the priority date claimed	 *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the International search report 12/01/2005
17 December 2004	
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Verbandt, Y

TCT/	EF	2004	/051	L736
------	----	------	------	------

	tion) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 470 123 B1 (RICH ERNEST J ET AL) 22 October 2002 (2002-10-22)	
A	US 5 671 311 A (STILLIE DONALD GRAY ET AL) 23 September 1997 (1997-09-23)	
A	EP 1 092 996 A (TYCO ELECTRONICS CORP) 18 April 2001 (2001-04-18)	

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2003034438	A1	20-02-2003	AU WO	2653299 A 0031771 A1	13-06-2000 02-06-2000
US 2003138219	A1	24-07-2003	AU CA EP JP	3434501 A 2359002 A1 1279057 A2 2003520353 T	14-05-2001 10-05-2001 29-01-2003 02-07-2003
US 6048107	Α	11-04-2000	NONE		
US 2001055460	A1	27-12-2001	NONE		
US 2003091301	A1	15-05-2003	NONE		
US 6470123	B1	22-10-2002	AU EP WO US	7789901 A 1311883 A1 0206871 A1 2002197019 A1	30-01-2002 21-05-2003 24-01-2002 26-12-2002
US 5671311	Α	23-09-1997	US EP JP	6033125 A 0713111 A1 8211251 A	07-03-2000 22-05-1996 20-08-1996
EP 1092996	A	18-04-2001	US CA EP JP	6485192 B1 2323185 A1 1092996 A2 2001141964 A	26-11-2002 15-04-2001 18-04-2001 25-05-2001